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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,327	07/26/2001	Masahito Ohe	501.36702CX2	8370

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EXAMINER	
CHUNG, DAVID Y	
ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/912,327	OHE ET AL.	
	Examiner	Art Unit	
	David Chung	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2002*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *09/185,647*.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4)☐ Interview Summary (PTO-413) Paper No(s). _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1, 8, 13, 18 and 21-24 rejected under 35 U.S.C. 103(a) as being unpatentable over Chigrinov et al. (U.S. 5,389,698). Chigrinov et al. discloses in example 3, pre-heating the substrate to about 80-90 degrees C. and then exposing the polymer layer with UV light through a polarizer. Although Chigrinov et al. does not specifically disclose heating the substrate during the process of irradiating the polymer layer, it was well known and obvious to do so in order to control the rate of polymerization. The temperature to which the substrate was heated and the duration for which this temperature was maintained are result effective variables. Result effective variables have been judicially determined to be obvious to one of ordinary skill in the art. Determination of these variables for best results would have been obvious to one of ordinary skill in the art. Using an orientation film that is responsive to irradiation of polarized UV light was well known and obvious given the process disclosed by Chigrinov et al.

Claims 2-3 rejected under 35 U.S.C. 103(a) as being unpatentable over Chigrinov et al. (U.S. 5,389,698). Chigrinov et al. does not disclose using a moving state to heat the substrate. However, use of a moving stage to heat the substrate was conventional at the time of invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a moving stage with the method of Chigrinov et al. because it was conventional.

Claim 4, 9, and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Chigrinov et al. (U.S. 5,389,698) in further view of Nakabayashi et al. (U.S. 5,710,608). Although Chigrinov et al. does not disclose specific use of the type of laser as claimed, Nakabayashi et al. discloses that argon lasers or other similar type lasers were preferably used because the ions from these lasers do not react with the orientation film to change the characteristic of the orientation film. See column 4, lines 25 – 30. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the type of lasers disclosed by Nakabayashi et al. with the method of Chigrinov et al. for the aforementioned reason.

Claim 5, 10, and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Chigrinov et al. (U.S. 5,389,698). Chigrinov et al. discloses using a mercury vapor lamp in both examples 1 and 3.

Claim 6, 11, 16, and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Chigrinov et al. (U.S. 5,389,698). Chigrinov et al. does not disclose using UV irradiation during the manufacturing process for parallel field devices. However, it was well known and obvious to use UV irradiation to orient and polymerize the alignment layer in a parallel field device because such a method leads to better pre-alignment of the liquid crystal layer and thus better viewing properties over a wide range of viewing angles. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the method of Chigrinov et al. for parallel field devices for the aforementioned reason.

Claim 7, 12, and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Chigrinov et al. (U.S. 5,389,698). Although Chigrinov et al. does not disclose making the orientation axes of the upper and lower alignment layers parallel to one another, it was well known and obvious to have the two axes parallel to one another in order to create a uniform alignment condition across the entire liquid crystal layer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to make the orientation axes of the upper and lower alignment layers parallel to one another for the aforementioned reason.

Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Chigrinov et al. (U.S. 5,389,698). Although Chigrinov et al. does not disclose a specific size for the display, the size of the liquid crystal display is a result effective variable that one of

ordinary skill in the art would know how to determine. It was obvious at the time of invention that making the liquid crystal display too small would have rendered it ineffective for viewing images. Therefore, making the display an appropriate size would have been obvious to one of ordinary skill in the art at the time of invention.

Response to Arguments

Applicant's arguments filed March 13, 2002 have been fully considered but they are not persuasive. The examples disclosed by Chigrinov in which the photopolymer layer is irradiated at room temperature after preheating does not constitute teaching away from irradiating the layer while applying heat. A rejection based on prima facie obviousness can depend on knowledge available to those of ordinary skill in the art as well as specific teachings of the prior art. It was well within the knowledge of those of ordinary skill in the art at the time of invention that temperature was a variable which impacts polymerization. This knowledge would have led one of ordinary skill to control the temperature during polymerization by applying heat in order to achieve a desired result. Furthermore, applying heat up to a temperature of 80 degrees Celsius is a broad range that was well known and obvious to those of ordinary skill in the art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (703) 306-0155. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

David Chung
GAU 2871
11/18/02